



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,675	04/14/2004	Toru Nakao	Q80547	4891

7590 09/02/2005
SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER

RODRIGUEZ, GLENDA P

ART UNIT	PAPER NUMBER
----------	--------------

2651

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/823,675	Applicant(s) NAKAO ET AL	
	Examiner Glenda P. Rodriguez	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/14/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6-9, and 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Bui et al. (US Patent No. 6, 791, 781).

Regarding Claim 1, a magnetic tape comprising:

A plurality of servo bands on which are written servo signals for tracking control of a magnetic head (See Fig. 3 and Col. 8, L. 3-10),

Wherein data is embedded in a servo signal written on one of the servo bands, and the data is for specifying the servo band where the servo signal positions (Col. 7, 55 to Col. 8, L. 38).

Method claim (6) is drawn to the method of using the corresponding apparatus claimed in claim (1). Therefore method claim (6) corresponds to apparatus claim (1) and is rejected for the same reasons of anticipation as used above.

Claim (12) has limitations similar to those treated in the above rejection(s), and is met by the references as discussed above. Claim (12) however also recites the following limitations: “a servo read head that reads servo information written on the servo bands (Element 230, which is a

read head that it is inherent in the art that it read servo data in order to accurately position itself with respect to the medium.)”.

Regarding Claims 2 and 7, Bui teaches all the limitations of Claims 1 and 6, respectively. Bui et al. further teaches wherein the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape (See Figs. 3 and 4, wherein Bui et al. illustrates the position of the servo bursts in the servo band.).

Regarding Claim 3, 4, 8 and 9, Bui teaches all the limitations of Claims 1 and 6, respectively. Bui et al. further teaches wherein the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and the data is embedded in the servo signal by changing a spacing interval between adjacent continuous patterns sets (See Fig. 5, wherein the spacing interval is different between the sets of servo bursts.).

Regarding Claims 11 and 13, Bui et al. teach all the limitations of Claims 1 and 6, respectively. Bui et al. further teaches specifying the servo band by reading one servo band by providing the specific positional information in the servo band as disclosed in Col. 7, 55 to Col. 8, L. 38.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al. in view of Fasen et al. (US Patent No. 6, 031, 673). Bui et al. teaches all the limitations of Claims 1 to 3, respectively. Bui et al. further teaches a magnetic tape (Element 220) and a controller (Element 810). However, Bui et al. does not explicitly teach wherein the use of a pulse generation circuit and a servo write head. Fasen et al. teaches a servo write head in Fig. 4 wherein it utilizes pulses in order to record and register defect in the recorded servo signals (Col. 2, L. 57 to Col. 3, L. 22). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bui et al.'s invention with the teaching of Fasen et al. in order to format a linear storage tape as specified in the Abstract of Fasen et al.

5. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al. in view of Murphy et al. (US Patent No. 6, 433, 949). Bui teaches all the limitations of Claims 1-3, respectively. However, Bui et al. does not explicitly teach wherein the steps of encoding data, converting into a pulse current and writing the data with the given pulse current. Murphy et al. teaches the encoding of the servo bands (Col. 4, L. 21-29 of Murphy et al.) and a pulse width bias with which the servo data is recorded (Col. 4, L. 30-54 of Murphy et al.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bui et al.'s invention with the teaching of Murphy et al. in order to write servo bands (See Abstract Murphy et al.).

6. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al. in view of Cates et al. (US Patent No. 5, 963, 400). Bui et al. teaches all the limitations of Claims 1 and 6, respectively. However, Bui et al. does not explicitly teach wherein the servo bands are previously DC erased. Cates et al. further teach wherein the bands have been DC

Art Unit: 2651

erased as shown in Col. 3, L. 51-67. It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bui et al.'s invention with the teaching of Cates et al. in order to allow multiple patterns to be recorded in the servo band as disclosed by the Abstract of Cates et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Patent No. 5, 566, 378 to Nagasawa et al., US Patent No. 5,946,156 to Scharwz et al., US Patent No. 5, 982, 711 to Knowles et al., US Patent No. 6, 122, 124 to Fasen et al., US Patent No. 6, 169, 640 to Fasen, US Patent No. 6, 563, 659 to Fasen and US Patent No. 6, 580, 581 to Bui et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (571) 272-7561. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Application/Control Number: 10/823,675

Page 6

Art Unit: 2651

A handwritten signature in black ink, appearing to be 'gpr', written in a cursive style.

gpr
August 25, 2005.

A handwritten signature in black ink, appearing to be 'w' or 'h', written in a cursive style.

DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600